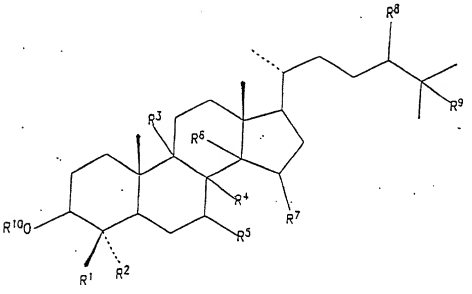
WHAT IS CLAIMED IS:

1. A method of regulating the meiosis in a mammalian germ cell in vivo, which method comprises administering to a mammal in need thereofa compound of the general formula (I)



(I)

wherein

R^1 and R^2, independently, are selected from the group comprising hydrogen, unbranched or branched C_1-C_6 alkyl which may be substituted by halogen or hydroxy or wherein R^1 and R^2 together with the carbon atom to which they are bound form a cyclopentane ring or a cyclohexane ring;

R^3 and R^4 together designate an additional bond between the carbon atoms to which they are bound in which case R^5 is hydrogen and R^6 and R^7 are either hydrogen or together they designate an additional bond between the carbon atoms to which they are bound; or

R^5 and R^4 together designate an additional bond between the carbon atoms to which they are bound in which case R^3 is hydrogen and R^6 and R^7 are either hydrogen or together they designate an additional bond between the carbon atoms to which they are bound; or

R^6 and R^4 together designate an additional bond between the carbon atoms to which

they are bound in which case R^3, R^5 and R^7 are all hydrogen;

R^8 and R^9 are hydrogen or together they designate an additional bond between the carbon atoms to which they are bound; and

R^{10} is either hydrogen or an acyl group, a sulfo group or a phosphono group, or a group which together with the remaining part of the molecule forms an ether

in an amount effective to regulate meiosis.

2. The method of claim 1 wherein R^1 is selected from the group consisting of hydrogen, methyl, ethyl, unbranched and branched C_3-C_6 alkyl, unbranched or a branched hydroxyalkyl group with up to six carbon atoms, unbranched or a branched a-hydroxyalkyl group with up to six carbon atoms, unbranched or a branched alkyl group substituted with halogen, and a trifluoromethyl.

3. The method of claim 1 wherein R^2 is selected from the group consisting of hydrogen,methyl, ethyl, unbranched and branched C_3-C_6 alkyl, unbranched or a branched hydroxyalkyl group with up to six carbon atoms, unbranched or a branched α-hydroxyalkyl group with up to six carbon atoms unbranched or a branched alkyl group substituted with halogen, and a trifluoromethyl.

4. The method of claim 1 wherein R^1 and R^2 together with the carbon atom to which they are bound form a cyclopentane ring or a cyclohexane ring.

5. The method of claim 1 wherein R^3 and R^4 together designate an additional bond between the carbon atoms to which they are bound and R^5 is hydrogen.

6. The method of claim 1 wherein R^5 and R^4 together designate an additional bond between the carbon atoms to which they are bound and R^3 is hydrogen.

7. The method of claim 1 wherein R^6 and R^4 together designate an additional bond between the

carbon atoms to which they are bound and R^3, R^5 and R^7 are hydrogen.

8. The method of claim 1 wherein R^6 and R^7 are hydrogen.

9. The method of claim 1 wherein R^6 and R^7 together designate an additional bond between the carbon atoms to which they are bound.

10. The method of claim 1 wherein R^8 and R^9 are hydrogen.

11. The method of claim 1 wherein R^8 and R^9 together designate an additional bond between the carbon atoms to which they are bound.

12. The method of claim 1 wherein R^{10} is hydrogen.

13. The method of claim 1 wherein R^{10} is an acyl group derived from an acid having from 1 to 20 carbon atoms.

14. The method of claim 1 wherein R^{10} is an acyl group selected from the group comprising acetyl, benzoyl, pivaloyl, butyryl, nicotinoyl, isonicotinoyl, hemi succinoyl, hemi glutaroyl, butylcarbamoyl, phenylcarbamoyl, butoxy carbonyl, tert-butoxy carbonyl and ethoxy carbonyl.

15. The method of claim 1 wherein R^{10} is an alkyl group, an aralkyl group, an alkyloxyalkyl group or an alkanoyloxyalkyl group, each group comprising a total of up to 10 carbon atoms, preferably up to 8 carbon atoms, which together with the remaining part of the molecule forms an ether.

16. The method of claim 1 wherein R^{10} is a methoxymethyl group or a pivaloyloxymethyl group.

17. The method of claim 1 wherein R^{10} is sulfo.

18. The method of claim 1 wherein R^{10} is phosphono.

19. The method of claim 1 wherein the germ cell is an oocyte or a male germ cell.

20. The method according to claim 1, wherein the compound is 4,4-dimethylzymosterol.

21. The method according to claim 1, wherein the compound is 4,4-dimethyl-5α-cholesta-8,14,24-triene-3β-ol.

22. The method according to claim 1, wherein said mammal is administered between about 1 to about 10 g of said compound per day.